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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/728,215	BIZJAK, KARL M.	
	Examiner	Art Unit	
	Devona E. Faulk	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-120* is/are pending in the application.

4a) Of the above claim(s) *6-11,48,49,82-88,94-117,119 and 120* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,12-19,21,23-25,34,36,4245,46,50-60,62-81,89-93,118-* is/are rejected.

7)☒ Claim(s) *2-5,17,19,20,22,23,26-33,36-41,43,47,60-62,69,80 and 118* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 8/9/2007, with respect to the 112 rejections of claims 45-47,53,have been fully considered and are persuasive. The 112 rejection of claims 45-47,53 has been withdrawn.

2. Applicant's arguments, filed 8/9/2007, with respect to the art rejection of claims 25,59,60 and 62 have been fully considered and are persuasive. The 102 rejection of claims 25,59,60 and 62 has been withdrawn.

3. Applicant's arguments filed 8/9/2007 have been fully considered but they are not persuasive. Regarding the 112 rejection of claims 2-4, the applicant directs the examiner to page 119 and Figures 55A and 55B. As stated in the previous rejection, **Claim 2** recites "...and the time response algorithm includes delaying responding to a change in the noise indicia above a threshold ". **Claims 4 and 118** recite " wherein the time response algorithm further includes converging on a noise level corresponding to the noise indicia above the threshold following the delayed response. The applicant asserts that algorithm as a procedure for solving a mathematical problem in a finite number of steps that frequently involves repetition of an operation. The examiner asserts that the issue was not with the term algorithm. The issue is with what is recited regarding the algorithm. The abstract discloses using an algorithm that includes time response and that the algorithm may include thresholding delay or convergence **but there is no disclosure in the specification of a time response algorithm including delaying responding to a change in the noise indicia above a threshold or of**

converging on a noise level corresponding to a noise indicia above a threshold following the delayed response. **Claim 3** recites ""... and the time response includes providing a response which is relatively slow in comparison to the change in noise indicia". The specification teaches of using an algorithm that includes time response **but not that the time response algorithm includes providing a response which is relatively slow in comparison to the change in noise indicia.** The examiner agrees that the specification teaches of a time response algorithm but asserts that if fails to teach the claim language in bold print. The disclosure on page 119 does not read on the claim language as recited. **The examiner has determined that a claim and specification objection should have been applied instead of a 112 rejection.**

4. Regarding the 112 rejection of claims 16-18, the applicant asserts that Figure 59 discloses plural algorithms. Claim 16 recites "selectively modifying the environmental input in accordance with an algorithm based on at least one of a group including time response, amplitude of response, and error correction and .....modifying the environmental input in accordance with a plurality of such algorithms, with at least some of such algorithms based on a different choice within the group". The examiner agrees that Figure 59 discloses a plurality of algorithms but all of them deal with time response. There are no algorithms that deal with amplitude of response or error correction. Therefore Figure 59 does not read on the claim language. **The examiner has determined that a claim and specification objection should have been applied instead of a 112 rejection.**

5. Regarding the 112 rejections of claims 23,41,43,60,62,69,80, the examiner agrees that the specification teaches that signal conditioning typically involves bandpass or lowpass filtering, Fourier transforms, and/or decimation to reduce digital processing requirements. The claim language also includes either root mean square method or RMS power estimation. This is not disclosed in the specification. The RMS language needs to be removed from the claims noted above. **The examiner has determined that a claim and specification objection should have been applied instead of a 112 rejection.**

6. Regarding the art rejection of claims 21,42 and 68, the applicant asserts that it has been shown above that AAPA (refers to the argument about AAPA as applied to claims 25,59,60 and 62) cannot be construed as suggested in the office action. The examiner disagrees. AAPA can not be construed as disclosing a negative feedback signal. Claim 21 only recites a feedback signal, it does not recite that the feedback signal is negative or positive. Therefore, AAPA reads on the claim language as recited in claim 21.

7. The indicated allowability of claims 36-37,55 is withdrawn in view of the newly discovered reference(s) to Hamabe and Shen. Rejections based on the newly cited reference(s) follow.

8. Claims 6-11,48,49,82-88,94-117,119 and 120 are withdrawn from consideration.

Specification

9. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claims **2-5,17,19,23,36-40,41,43,50,60,62,69,80,118** are objected to because of the following informalities:

Claim 2 recites "...and the time response algorithm includes delaying responding to a change in the noise indicia above a threshold ". **Claims 4,5 and 118** recite " wherein the time response algorithm further includes converging on a noise level corresponding to the noise indicia above the threshold following the delayed response. The abstract discloses using an algorithm that includes time response and that the algorithm may include thresholding delay or convergence **but there is no disclosure in the specification of a time response algorithm including delaying responding to a change in the noise indicia above a threshold or of converging on a noise level corresponding to a noise indicia above a threshold following the delayed response.** .

Claim 3 recites ""... and the time response includes providing a response which is relatively slow in comparison to the change in noise indicia". The specification teaches of using an algorithm that includes time response **but not that the time response algorithm includes providing a response which is relatively slow in comparison to the change in noise indicia.**

The examiner agrees that the specification teaches of a time response algorithm but asserts that if fails to teach the claim language in bold print. The disclosure on page 119 does not read on the claim language as recited.

Claim 17 recites "combining at least some of the multiple instances". The specification does not disclose this claim language.

Claim 23,41,43,60,62,69,80, recites "further including the step of converting the environmental input and the reference input by the root-mean-square prior to the step of determining the difference". The applicant has directed the examiner to pages 105-106. Page 106 discloses that typical signal conditioning involves for example, bandpass or low pass filtering , Fourier transforms, and /or decimation. This does not read on converting by the root-mean-square.

Claim 36 recites "generating an output signal accordingly, wherein the group further includes inputs indicating binary state". Claim 37 recites "wherein the binary state inputs include indicia for at least one of a group comprising: whether windows are open or closed, whether doors are open or closed, and whether a roof is open or closed. The examiner has determined that the specification does not disclose the claim language noted above.

Claim 38 recites ".. combining a plurality of the environmental inputs into a primary environmental input...". The specification discloses a plurality of environmental inputs (environmental inputs 470, Figure 52 A; page 105 3rd

paragraph). The specification does not disclose that the environmental inputs are combined into a primary environmental signal.

Claim 50 recites "wherein the combining step includes combining at least some algorithms configured to perform the same function". The specification does not disclose the above noted claim language.

If the applicant believes this specification objection is in error, the applicant needs to clearly identify where this subject matter can be found in the specification. The examiner could not find the above mentioned subject matter in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. **Claims 17,19,50, 71-81,89-93** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 recites "combining at least some of the multiple instances". The examiner is confused as to what this means.

Claim 19 recites " wherein the long duration noise floor signal includes a plurality of signals". The examiner is confused by the language. Is the applicant

disclosing the long duration noise floor signal includes a plurality of what signals? Noise?

Claim 50 recites "wherein the combining step includes combining at least some algorithms configured to perform the same function". The examiner is confused about what this means.

12. **Claims 71-76 (claims 72-81,89-93 are dependent upon claim 71)** recite

71. (Currently amended) ~~The method of claim 70~~ A noise extraction method comprising
the steps of:
providing a reference signal,
providing an environmental input which includes a noise indicia with a small noise
fluctuation amplitude,
determining the difference between the environmental input and the reference signal
,to generate a negative feedback signal,
modifying one signal of a group comprising the environmental input and the reference
signal to minimize the difference to correct for the small noise fluctuation amplitude, and generating a modified output signal in accordance therewith,
wherein at least one of the steps of providing at least one environmental input and at least one
reference input includes providing a plurality of such inputs, and wherein
the determining step includes determining the difference between associated ones of the environmental inputs and the reference inputs.
72. (Original) The method of claim 71 wherein the determining step further includes signal processing of at least one of the group comprising the at least one environmental input and the at least one reference input.
73. (Original) The method of claim 71 wherein the converting step includes converting
each result of the determining step.
74. (Original) The method of claim 73 further including the step of combining results of
the converting step.
75. (Original) The method of claim 72 wherein the signal processing includes at

least one of a group comprising input scaling, filtering, rectification, envelope detection, averaging, RMS power estimation, Fourier transform, delay compensation, equalizing, emphasizing and de-emphasizing.
76. (Original) The method of claim 71 wherein the step of generating a modified output
signal includes generating a modified output signal for at least some of the associated ones.
77. (Currently amended) The method of claim 76 further including the steps of selecting, for at least some of the pairs of associated ones, as an unmodified output signal t-he one signal of the group not modified in the modifying step,

The claim language is confusing. The examiner is not clear as to what is being modified. The claim language begins with only one environmental and reference input and ends with a plurality and there are two determining steps, one processing a single reference and environmental input and the other processing a plurality. Is there only one environmental and reference input being processed or a plurality of environmental inputs and reference inputs being processed? The examiner has to be clear about which is the case in order to search for art that would read on the claim language. The applicant needs to review the claim language as recited especially in light of the dependent claims.

13. Claim 71-81,89-93 recite " at least one environmental input and at least one reference input ..". There is insufficient antecedent basis for the "at least one" language.

14. Claims 73 and 74 recites the limitation ".. the converting step.." in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. **Claims 1-3,14,16,18,35,45,46** are rejected under 35 U.S.C. 102(e) as being anticipated by Seligman (US 6,151,400).

Claims 1 and 16 share common features.

Regarding **claims 1 and 16**, Seligman discloses a noise extraction method (column 2, lines 40-65; Figure 1) comprising the steps of:

providing an environmental input which includes a noise indicia (10, Figure 1;column 2, lines 40-41),

selectively modifying the environmental input in accordance with an algorithm based on at least one of a group including time response, amplitude of response, and error correction (algorithm is defined as procedure for solving a mathematical problem in a finite number of steps ; envelope detector 17 reads on amplitude of response; and 16 minimum detector reads on time response; column 2, lines 42-52), and

generation a long duration noise floor signal accordingly, whereby the long duration noise floor signal modifies a system gain (15 noise floor signal; column 2; lines 52-64).

Furthermore regarding claim 16, Seligman discloses the step of selectively modifying the environmental input includes modifying the environmental input in accordance with a plurality of such algorithms, with at least some of such algorithms based on a different choice within the group (envelope detector 17 reads on amplitude of response; and 16 minimum detector reads on time response; column 2, lines 42-52).

All elements of **claims 2-3,14,18,35,45 and 46** are comprehended by the rejection of claims 1 and 16(column 2, lines 17-24 and lines 53-65; microphone produces an analog signal)

17. **Claims 36 and 37** are rejected under 35 U.S.C. 102(e) as being anticipated by Hamabe et al. (US 5,426,703).

Regarding claim 36, Hamabe discloses a noise extraction method comprising the steps of:

Providing an environmental input which includes a noise indicia (microphones 8a-8h, Figures 1B, 3A and 4; column 7,lines 56-61),

Selectively modifying the environmental input in accordance with an algorithm based on at least one of a group including time response, amplitude of response and error correction (filters 12 and 13 modifies the input in accordance with error correction; column 7, lines 12-60),

And generating an output signal accordingly, wherein the group further includes inputs indicating binary state (Figure 4; 23 includes a window switch 23b which detects the opened and closed conditions of the windows; column 12, lines 2-20).

All elements of claim 37 are comprehended by the rejection of claim 36.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. **Claims 12,15** are rejected under 35 U.S.C. 102(e) as being anticipated by Seligman (US 6,151,400) as modified by Zurek et al.(US 4,956,867).

Regarding claim 12,Seligman discloses an environmental input. Seligman fails to disclose that the environmental input comprises a plurality of environmental sub-inputs. Zurek discloses an environmental input comprised of environmental sub-inputs (Figures 1,2,4 ; microphones 12a,12b of Figures 1 and 2 and microphones 821-82m of Figure 4). It would have been obvious to modify Seligman so that the environmental input comprises a plurality of environmental sub-inputs in order to receive an input signal having target and noise signal components (Zurek, column 2, lines 28-30).

Regarding claim 15, Seligman discloses modifying in accordance with a selected algorithm. Seligman fails to explicitly disclose multiple instances of modifying in accordance with the selected algorithm. Zurek teaches of continuously adapting or modifying (column 5, lines 24-29). It would have been obvious to modify Seligman so that there are multiple instances of modifying in order to improve the quality of the input signal (Zurek, column 5, lines 24-26).

20. **Claims 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Seligman (US 6,151,400).

Seligman discloses wherein the environmental input is an analog signal. Seligman fails to disclose that the environmental input is a digital signal. The examiner takes official notice that digital signals or digital processing is known in the art. It would have been obvious to modify Seligman so that the environmental input is digital in order to provide a higher quality sound at the output.

21.. **Claims 25,59,60 and 62** are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (hereafter AAPA) (Figure 2, page 4-page 5) .

Regarding claim 25, AAPA discloses a noise extraction method comprising the steps of:

providing a reference signal (speaker Figure 2, page 4);

providing an environmental input which includes noise indicia with a small noise fluctuation amplitude (Figure 2);

determining the difference between the environmental input and the reference signal to generate a feedback signal (Figure 2),

modifying one signal of a group comprising the environmental input and the reference signal to minimize the difference to correct for the small noise fluctuation amplitude (Figure 2, page 4), and

generating a modified output signal in accordance therewith (Figure 2).

AAPA discloses generating a positive feedback signal.

The examiner takes official notice that a positive or negative feedback signal is well known in the art (A positive feedback signal is one that increases the gain and a negative feedback is one that decreases the output). It would have been obvious to one of ordinary skill in the art to modify the AAPA generate a negative feedback signal in order to decrease the output signal.

All elements of **claims 59,60 and 62** are comprehended by the rejection of claim 25 (See AAPA as applied to claim 25 above and AAPA teach of processing using filtering on page 4).

22. **Claims 34,38-41** is rejected under 35 U.S.C. 103(a) as being unpatentable over Seligman (US 6,151,400) in view of Kates (US 6,072,884).

Regarding claim 34, Seligman fails to disclose a plurality of environmental inputs and combining a plurality of environmental inputs into a primary environmental input.

Kates discloses that signals from two or more microphones are combined to form audio signal 504 (Figure 5; column 10, lines 62-65; column 11, lines 11-20). It would have obvious to modify Seligman to include a plurality of environmental inputs and combining the inputs into a primary environmental input to allow adaptive directional microphone processing.

Regarding **claim 38**, Seligman discloses a noise extraction method (column 2, lines 40-65; Figure 1) comprising the steps of:

providing an environmental input which includes a noise indicia (10, Figure 1;column 2, lines 40-41), s

electively modifying the environmental input in accordance with an algorithm based on at least one of a group including time response, amplitude of response, and error correction (envelope detector 17 reads on amplitude of response; and 16 minimum detector reads on time response; column 2, lines 42-52), and

generation a long duration noise floor signal accordingly, whereby the long duration noise floor signal modifies a system gain (15 noise floor signal; column 2; lines 52-64).

Seligman fails to disclose a plurality of environmental inputs and combining a plurality of environmental inputs into a primary environmental input.

Kates discloses that signals from two or more microphones are combined to form audio signal 504 (Figure 5; column 10, lines 62-65; column 11, lines 11-20). It would have obvious to modify Seligman to include a plurality of environmental inputs and combining the inputs into a primary environmental input to allow adaptive directional microphone processing.

All elements of **claims 39-41** are comprehended by the rejection of claim 38 (See Figures 5 and 6; Figure 6 discloses an embodiment wherein the signal processing is performed separately for each environmental input).

23. **Claim 44** is rejected under 35 U.S.C. 102(e) as being anticipated by Seligman (US 6,151,400).

Regarding **claim 44**, Seligman teaches of a time response algorithm. Seligman fails to disclose that the time response algorithm includes variable attack and release. The examiner takes official notice that variable attack and release algorithms are known in

the art. It would have been obvious to modify Seligman so that the time response algorithm includes variable attack and release so that modifying the environmental input could be done dynamically.

24. **Claims 51-54** are rejected under 35 U.S.C. 103(a) as being unpatentable over Germer (US 4,628,526) in view of .Helms (US 5,666,426).

Regarding **claim 51**, Germer discloses a noise extraction method comprising the steps of:

Providing a reference input indicative of output power level (output of speaker 10, Figure 1),

Providing an environmental input which includes a noise indicia (microphone 11, Figure 1),

Generating an indication of noise power level in response to the environmental input (envelope curve signal, see abstract; column 5, lines 15-35),

Comparing the reference input to the indication of noise power level (abstract; column 5, lines 15-35),

Selectively modifying system gain in accordance with compare step (abstract; column 5, lines 15-55).

Germer fails to disclose providing a noise sensitivity control signal for modifying the signal-to-noise ration of system output. Helms discloses an automatic volume control to compensate for ambient noise variations including a volume control which controls the volume of sound that is output by the system (22, Figure 1; column 2, lines

49-55) and a microphone (12) that receives the total ambient sound including the output from the speaker (column 2, lines 62-65). Whenever the volume control is used the signal-to-noise ratio is implicitly modified.

It would have been obvious to modify Germer to include a volume control that controls the volume of sound output by the system in order to provide manual control over the system output.

Regarding **claim 52**, Germer further discloses that modifying is done when the noise level exceeds a predetermined threshold (column 5, lines 43-59).

All elements of **claims 53 and 54** are comprehended by the rejection of claim 51.

25. **Claims 21,24,42,68** are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (hereafter AAPA) (Figure 2, page 4-page 5) in view of Humphrey (US 4,306,115).

Regarding **claim 21**, AAPA discloses a method for correction for small noise fluctuation including the steps of providing at least one environmental input having a noise indicia with a small noise fluctuation amplitude (microphone, Figure 2),

providing at least one reference input (speaker Figure 2, page 4),

determining the difference between the environmental input and the reference input to generate a feedback signal (Figure 2),

converting the feedback signal to a gain offset to correct for the small noise fluctuation (Figure 2, page 4).

AAPA fails to disclose the gain having a predetermined maximum and minimum. Humphrey discloses the concept of gain that has a predetermined minimum and maximum (column 3, lines 17-19). It would have been obvious to modify the AAPA so that the gain has a predetermined maximum and minimum in order to provide a operating or working range for the user.

Regarding **claim 24**, the examiner takes official notice that converting using a Fourier transform is known in the art. It would have been obvious to modify AAPA as modified so that the converting is done using a Fourier transform in order to be able to obtain the relationship between a signal in the time domain and in the frequency domain.

All elements of **claim 42 and 43** are comprehended by the rejection of claim 21.

All elements of **claim 68** are comprehended by the rejection of claim 25 (See AAPA as applied to claim 21 above and AAPA teach of processing using filtering on page 4).

26. **Claim 55** is under 35 U.S.C. 103(a) as being unpatentable over Germer (US 4,628,526) in view of view of Shen (US 5,416,845)..

Regarding **claim 55**, Germer discloses a noise extraction method comprising the steps of:

Providing a reference input indicative of output power level (output of speaker 10, Figure 1),

Providing an environmental input which includes a noise indicia (microphone 11, Figure 1),

Generating an indication of noise power level in response to the environmental input (envelope curve signal, see abstract; column 5, lines 15-35),

Comparing the reference input to the indication of noise power level (abstract; column 5, lines 15-35),

Selectively modifying system gain in accordance with compare step (abstract; column 5, lines 15-55).

Germer fails to disclose that the reference input includes a plurality of inputs.

Shen discloses wherein a reference input includes a plurality of reference inputs (Figure 6, column 15, lines 12-26, Figure 1B).

The prior art, as evidenced by Shen discloses a plurality of reference inputs. It would have been obvious to try the known method of noise extraction with a plurality of reference signals in order to provide a multichannel system.

27. **Claim 56-58** are rejected under 35 U.S.C. 103(a) as being unpatentable over Germer (US 4,628,526) in view of view of Shen (US 5,416,845) in view of .Kates (US 6,072,884).

Regarding claims 56-58, Germer as modified discloses an environmental and reference input. Germer as modified fails to disclose combining at least some of the plurality of reference inputs to generate overall indication of output level (claim 56); a plurality of environmental inputs (claim 57); combining at least some of the plurality of inputs to generate an overall indication of noise (claim 58)

Kates discloses that signals from two or more microphones are combined to form audio signal 504 (Figure 5; column 10, lines 62-65; column 11, lines 11-20). It would have obvious to modify Seligman to include a plurality of environmental inputs or reference inputs and combining the inputs to allow adaptive directional microphone processing.

28. **Claims 63-67** are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (hereafter AAPA) (Figure 2, page 4-page 5) in view of Humphrey (US 4,306,115) in further view of Kates (US 6,072,884).

Regarding claims 63-67, AAPA as modified discloses an environmental and reference input. AAPA as modified fails to disclose wherein at least one of the steps of providing at least one environmental input and at least one reference input includes providing a plurality of such inputs.

Kates discloses that signals from two or more microphones (Figure 5; column 10, lines 62-65; column 11, lines 11-20). It would have obvious to modify Seligman to include a plurality of environmental inputs to allow adaptive directional microphone processing.

All elements of claim 64-67 are comprehended by the rejection of claim 63.

29. **Claim 70** is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (hereafter AAPA) (Figure 2, page 4-page 5) in view of .Kates (US 6,072,884)..

AAPA fails to disclose a plurality of environmental inputs .

Kates discloses that signals from two or more microphones (Figure 5; column 10, lines 62-65; column 11, lines 11-20). It would have obvious to modify Seligman to include a plurality of environmental inputs to allow adaptive directional microphone processing.

Claim Objections

29. **Claims 20,22,26-33,47,61** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

30. Claims **2-5,17,19,23,36-40,41,43,60,62,69,80,118** are objected to because of the following informalities: Appropriate correction is required.

Claim 2 recites "...and the time response algorithm includes delaying responding to a change in the noise indicia above a threshold ". **Claims 4,5 and 118** recite " wherein the time response algorithm further includes converging on a noise level corresponding to the noise indicia above the threshold following the delayed response. The abstract discloses using an algorithm that includes time response and that the algorithm may include thresholding delay or convergence **but there is no disclosure in the specification of a time response algorithm including delaying responding to a change in the noise indicia above a threshold or of converging on a noise level corresponding to a noise indicia above a threshold following the delayed response.** .

Claim 3 recites ""... and the time response includes providing a response which is relatively slow in comparison to the change in noise indicia". The specification teaches of using an algorithm that includes time response **but not that the time response algorithm includes providing a response which is relatively slow in comparison to the change in noise indicia.**

The examiner agrees that the specification teaches of a time response algorithm but asserts that if fails to teach the claim language in bold print. The disclosure on page 119 does not read on the claim language as recited.

Claim 17 recites "combining at least some of the multiple instances". The specification does not disclose this claim language.

Claim 19 recites " wherein the long duration noise floor signal includes a plurality of signals". The specification discloses a long duration noise floor signal but does disclose that it includes a plurality of signals.

Claim 23,41,43,60,62,69,80, recites "further including the step of converting the environmental input and the reference input by the root-mean-square prior to the step of determining the difference". The applicant has directed the examiner to pages 105-106. Page 106 discloses that typical signal conditioning involves for example, bandpass or low pass filtering , Fourier transforms, and /or decimation. This does not read on converting by the root-mean-square.

Claim 36 recites "generating an output signal accordingly, wherein the group further includes inputs indicating binary state". Claim 37 recites "wherein

the binary state inputs include indicia for at least one of a group comprising: whether windows are open or closed, whether doors are open or closed, and whether a roof is open or closed. Upon further inspection the examiner has determined that the specification does not disclose the claim language noted above.

Claim 38 recites ".. combining a plurality of the environmental inputs into a primary environmental input...". The specification discloses a plurality of environmental inputs (environmental inputs 470, Figure 52 A; page 105 3rd paragraph). The specification does not disclose that the environmental inputs are combined into a primary environmental signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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DEF

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